



Aircrew Survival Equipmentman 2

Only one answer sheet is included in the NRTC. Reproduce the required number of sheets you need or get answer sheets from your ESO or designated officer.

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S/N 0503-LP-214-1800

The terms training manual (TRAMAN) and nonresident training course (NRTC) are now the terms used to describe Navy nonresident training program materials. Specifically, a TRAMAN includes a rate training manual (RTM), officer text (OT), single subject training manual (SSTM), or modular single or multiple subject training manual (MODULE); and an NRTC includes nonresident career course (NRCC), officer correspondence course (OCC), enlisted correspondence course (ECC), or combination thereof.

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Specific Instructions and Errata for
Nonresident Training Course

AIRCREW SURVIVAL EQUIPMENTMAN 2
NAVEDTRA 80380

1. No attempt has been made to issue corrections for errors in typing, punctuation, and so forth, which do not affect your ability to answer the questions.
2. TO OBTAIN CREDIT FOR DELETED QUESTIONS, SHOW THIS ERRATA TO YOUR LOCAL COURSE ADMINISTRATOR (ESO/SCORER). THE LOCAL COURSE ADMINISTRATOR (ESO/SCORER) IS DIRECTED TO CORRECT THE ANSWER KEY FOR THIS COURSE BY INDICATING THE QUESTIONS DELETED.
3. Assignment Booklet, NAVEDTRA 80380

Delete the following questions and leave the corresponding spaces blank on the answer sheets.

<u>Questions</u>	<u>Questions</u>
2-2	5-32
3-34	5-58
4-3	6-38
5-5	10-5



0503LP2141801

AIRCREW SURVIVAL EQUIPMENTMAN 2

NAVEDTRA 80380

Prepared by the Naval Education and Training Program Management
Support Activity, Pensacola, Florida

Congratulations! By enrolling in this course, you have demonstrated a desire to improve yourself and the Navy. Remember, however, this self-study course is only one part of the total Navy training program. Practical experience, schools: selected reading, and your desire to succeed are also necessary to successfully round out a fully meaningful training program. You have taken an important step in self-improvement. Keep up the good work.

HOW TO COMPLETE THIS COURSE SUCCESSFULLY

ERRATA: If an errata comes with this course, make all indicated changes or corrections before you start any assignment. Do not change or correct the Training Manual (TRAMAN) or assignments in any other way.

STUDY ASSIGNMENTS: The TRAMAN for this course is Aircrew Survival Equipmentman 2, NAVEDTRA 10380. The TRAMAN pages that you are to study are listed at the beginning of each assignment. Study these pages carefully before attempting to answer the questions in the course. Pay close attention to tables and illustrations because they contain information that will help you understand the TRAMAN. Read the learning objectives provided at the beginning of each chapter or topic in the TRAMAN and/or preceding each set of questions in the course. Learning objectives state what you should be able to do after studying the material. Answering the questions correctly helps you accomplish the objectives.

BLACK DOT INFORMATION: Black dots (●) may be used in the TRAMAN and correspondence course to emphasize important or supplemental information and to highlight instructions for answering certain questions. Read these black dot entries carefully; they will help you answer the questions and understand the material.

SELECTING YOUR ANSWERS: After studying the TRAMAN, you should be ready to answer the questions in the assignment. Read each question carefully, then select the BEST answer. Be sure to select your answer from the subject matter in the TRAMAN. You may refer freely to the TRAMAN and seek advice and information from others on problems that may arise in the course. However, the answers must be the result of your own work and decisions. You are prohibited from referring to or copying the answers of others and from giving answers to anyone else taking the same course. Failure to follow these rules

can result in suspension from the course and disciplinary action by the Commander, Naval Military Personnel Command.

SUBMITTING COMPLETED ANSWER SHEETS: It is recommended that you complete all assignments as quickly as practicable to derive maximum benefit from the course. However, as a minimum, your schedule should provide for the submission of at least one assignment per month--a requirement established by the Chief of Naval Education and Training. Failure to meet this requirement could result in disenrollment from the course.

TYPES OF ANSWER SHEETS: If you received Automatic Data Processing (ADP) answer sheets with this course, the course is being administered by the Naval Education and Training Program Management Support Activity (NETPMSA), and you should follow the instructions in paragraph A below. If you did NOT receive ADP answer sheets with this course, you should use the manually scored answer sheet attached at the end of the course and follow the directions contained in paragraph B below,

A. ADP Answer Sheets

All courses administered by the NETPMSA include one blank ADP answer sheet for each assignment. For proper computer processing, use only the original ADP answer sheets. Reproductions are not acceptable.

Recording Information on the ADP Answer Sheets: Follow the "MARKING INSTRUCTIONS" on the answer sheet. Be sure that blocks 1, 2, and 3 are filled in correctly. This information is necessary for your course to be properly processed and for you to receive credit for your work.

As you work the course, be sure to mark your answers in the course booklet because your answer sheets will not be returned to you. When you have completed an assignment, transfer your answers from the course booklet to the answer sheet.

Mailing the Completed ADP Answer Sheets: As you complete each assignment, mail the completed ADP answer sheet to:

Commanding Officer
Naval Education and Training
Program Management
Support Activity
Pensacola, FL 32559-5000

The answer sheets must be mailed in envelopes, which you must either provide yourself or get from the local Educational Services Officer (ESO). You may enclose more than one answer sheet in a single envelope. Remember, regardless of how many answer sheets you submit at a time, the NETPMSA should receive at least one a month, NOTE: DO NOT USE THE COURSE COMMENTS PAGE AS AN ENVELOPE FOR RETURNING ANSWER SHEETS OR OTHER COURSE MATERIALS.

Grading: The NETPMSA will grade your answer sheets and notify you by letter of any incorrect answers. The passing score for each assignment is 3.2. Should you get less than 3.2 on any assignment, a blank ADP answer sheet will be enclosed with the letter listing the questions incorrectly answered. You will be required to redo the assignment and resubmit a new completed answer sheet. The maximum score that can be given for a resubmitted assignment is 3.2.

Course Completion: When you complete the last assignment, fill out the "Course Completion" form in the back of the course and enclose it with your last answer sheet. The NETPMSA will issue you a letter certifying that you satisfactorily completed the course. You should make sure that credit for the course is recorded in your service record.

Student Questions: Any questions concerning this course should be referred to the NETPMSA by mail using the address listed above or by telephone: AUTOVON 922-1593 or commercial (904) 452-1593,

B. Manually Scored Answer Sheets

If you are a U.S. Navy enlisted member on active duty or attached to a U.S. Naval Reserve drilling unit, your course will be scored by your local command. You must use the answer sheet designed for manual scoring, NETPMSA form 1430/5, Stock Ordering

Number 0502-LP-216-0100. You may get a supply of the forms from your ESO or you may reproduce the one in the back of this course booklet, DO NOT USE THIS FORM FOR COURSES ADMINISTERED BY NETPMSA.

Recording Information on the Manually Scored Answer Sheets: Fill in the appropriate blanks at the top of the answer sheet. This information is necessary for your course to be properly processed and to receive credit for your work. As you work the course, be sure to mark your answers in the course booklet, because your answer sheets will not be returned to you. When you have completed an assignment, transfer your answers from the course booklet to the answer sheet.

Submitting the Completed Manually Scored Answer Sheets: As you complete each assignment, submit the completed answer sheet to your ESO for grading. You may submit more than one answer sheet at a time. Remember, you must submit at least one assignment a month.

Grading: Your ESO will grade the answer sheets and notify you of any incorrect answers. The passing score for each assignment is 3.2. Should you get less than 3.2 on any assignment, the ESO will not only list the questions incorrectly answered but will also give you another answer sheet. You will be required to redo the assignment and submit the new answer sheet. be given for a resubmitted assignment is 3.2.

Course Completion: After you have submitted all the answer sheets and have earned at least a 3.2 on each assignment, your command will give you credit for this course by making the appropriate entry on Page 4 of your service record.

Student Questions: Any questions concerning the administration of this course should be referred to your ESO.

NAVAL RESERVE RETIREMENT CREDIT

This course is evaluated at 10 Naval Reserve retirement points. Points will be credited upon satisfactory completion of the course assignments. These points are creditable to personnel eligible to receive them under current directives governing retirement of Naval Reserve personnel.

The date of completion for this course or units is the date processed through the NETPMSA ADP System, and not the day deposited in the mail. Answer sheets and "Course Completion"

forms submitted by reserve personnel should be mailed at least 60 days prior to their anniversary date.

COURSE OBJECTIVE

In completing this NRTC, you will demonstrate a knowledge of the subject matter by correctly answering questions on the following: Personnel parachute familiarization; automatic opening devices; NES-12 personnel parachute system; protective equipment; rescue and survival equipment; inflatable survival equipment; seat survival kit; carbon dioxide; sewing machines; fabrication and manufacture; oxygen test stands and oxygen oxygen related components.

Naval courses may include several types of questions-multiple-choice, true-false, matching, etc. The questions are not grouped by type but by subject matter. They are presented in the same general sequence as the textbook material upon which they are based. This presentation is designed to preserve continuity of thought, permitting step-by-step development of ideas. Not all courses use all of the types of questions available. The student can readily identify the type of each question, and the action required, by inspection of the samples given below.

MULTIPLE-CHOICE QUESTIONS

Each question contains several alternatives, one of which provides the best answer to the question. Select the best alternative, and blacken the appropriate box on the answer sheet.

SAMPLE

s-1. Who was the first person appointed Secretary of Defense under the National Security Act of 1947?

1. George Marshall
2. James Forrestal
3. Chester Nimitz
4. William Halsey

Indicate in this way on the answer sheet:

	1	2	3	4	
	T	F			
s-1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---

TRUE-FALSE QUESTIONS

Mark each statement true or false as indicated below. If any part of the statement is false the statement is to be considered false. Make the decision, and blacken the appropriate box on the answer sheet.

SAMPLE

s-2. All naval officers are authorized to correspond officially with arty systems command of the Department of the Navy without their respective commanding officer's endorsement.

1. True
2. False

Indicate in this way on the answer sheet:

	1	2	3	4	
	T	F			
s-2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---

MATCHING QUESTIONS

Each set of questions consists of two columns, each listing words, phrases or sentences. The task is to select the item in column B which is the best match for the item in column A that is being considered. Items in column B maybe used once, more than once, or not at all. Specific instructions are given with each set of questions. Select the numbers identifying the answers and blacken the appropriate boxes on the answer sheet.

SAMPLE

In questions s-3 through s-6, match the name of the shipboard officer in column A by selecting from column B the name of the department in which the officer functions. Some responses may be used once, more than once, or not at all.

A. OFFICER

B. DEPARTMENT

- | | |
|-------------------------------|---------------------------|
| s-3. Damage Control Assistant | 1. Operations Department |
| s-4. CIC Officer | 2. Engineering Department |
| s-5. Disbursing Officer | 3. Supply Department |
| s-6. Communications Officer | |

Indicate in this way on the answer sheet:

	1	2	3	4	
	T	F			
s-3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---
s-4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---
s-5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	---
s-6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	---

Assignment 1

Textbook Assignment: "Personnel Parachute Familiarization." Pages 1-1 through 1-30.

Learning Objective: Identify *principal events and persons related to the development of the parachute as the principal item of an aviator's personal survival equipment.*

- | | |
|---|--|
| <p>1-1. The first man to be accredited with a successful parachute jump from an aircraft was</p> <ol style="list-style-type: none">1. Jodaki Kuparento2. Fausto Veranzio3. Albert Berrv4. Andre Garnerin <p>1-2. Who was the first man to make a free-fall parachute jump from an aircraft?</p> <ol style="list-style-type: none">1. Floyd Smith2. Guy Hall3. Major Hoffman4. Leslie Irvin <p>1-3. In what year did it become a mandatory requirement for all Navy aircrewmembers to wear parachutes?</p> <ol style="list-style-type: none">1. 19182. 19223. 19244. 1923 <p>1-4. In what year was the PR rate established?</p> <ol style="list-style-type: none">1. 19222. 19243. 19424. 1944 | <p>1-5. How many major components make up a standard service parachute?</p> <ol style="list-style-type: none">1. Three2. Four3. Five4. Six <p>1-6. What is the air permeability of 1.1-ounce ripstop nylon?</p> <ol style="list-style-type: none">1. 40 to 50 cubic feet per second2. 60 to 70 cubic feet per minute3. 70 to 80 cubic feet per second4. 80 to 100 cubic feet per minute <p>1-7. How many sections are in each gore of a 28-foot canopy?</p> <ol style="list-style-type: none">1. Four2. Three3. Two4. One <p>1-8. The sections used in a parachute Canopy are cut at a 45-degree angle to the centerline of the gore. This is known as what type of construction?</p> <ol style="list-style-type: none">1. Off-center2. Bias3. Filler4. Warp <p>1-9. Where can the date of manufacture be found on a 28-foot canopy?</p> <ol style="list-style-type: none">1. Section D of gore 282. Section C of gore 283. Section A of gore 284. Section B of gore 28 |
|---|--|

Learning Objective: Identify *basic criteria and associated functions, operating characteristics, and methods of parachute assembly.*

- 1-10. What part of a parachute prevents ruptures to the canopy during opening shock?
1. Vent hem
 2. Skirt hem
 3. Vent
 4. Gore
- 1-11. What size nylon thread should be used for sewing diagonal seams?
1. Either B or E
 2. F
 3. FF
 4. A
- 1-12. All machine stitching on a parachute canopy (except zigzag) should conform to (a) what type and (b) what federal standard?
1. (a) 301 (b) 750
 2. (a) 301 (b) 751
 3. (a) 302 (b) 750
 4. (a) 302 (b) 751
- 1-13. The overall length of a suspension line on a 28-foot canopy is
1. 14 ft 4 in
 2. 28 ft 8 in
 3. 56 ft 10 in
 4. 75 ft 4 in
- 1-14. What is the tensile strength of type III nylon suspension line?
1. 110 pounds
 2. 220 pounds
 3. 550 pounds
 4. 600 pounds
- 1-15. Which of the following components is NOT housed in a parachute container?
1. Harness
 2. Main canopy
 3. Suspension lines
 4. Pilot chute
- 1-16. Personnel parachute harness webbing has a tensile strength of
1. 4,000 to 5,000 pounds
 2. 6,000 to 7,000 pounds
 3. 6,000 to 8,000 pounds
 4. 4,000 to 5,000 pounds
- 1-17. How many types of parachute harnesses are used in the Navy?
1. One
 2. Two
 3. Three
 4. Four
- 1-18. Ripcord pins are swagged in place and tested at
1. 100 pounds
 2. 200 pounds
 3. 300 pounds
 4. 400 pounds
- 1-19. Parachute harness fittings are usually made of which of the following metals?
1. Cadmium plated steel
 2. Chrome plated steel
 3. Both 1 and 2 above
 4. Brass plated steel
- 1-20. What is the tensile strength of a V ring?
1. 1,000 pounds
 2. 1,500 pounds
 3. 2,000 pounds
 4. 2,500 pounds
- 1-21. How many types of adapters are used with parachutes?
1. One
 2. Two
 3. Three
 4. Four
- 1-22. Integrated torso harnesses equipped with SEAWARS are designed to automatically release the parachute risers upon Immersion in
1. fresh water only
 2. seawater only
 3. either fresh water or seawater
- 1-23. Several types of snaps used with parachutes include the plain-harness snap, quick-fit snap, and the quick-connector snap.
1. True
 2. False

1-24. A PR must not only know and observe the rules for handling parachutes, but he/she must be prepared to instruct squadron personnel in the specific DO's and DON'Ts of handling them.

1. True
2. False

1-25. When placing an RFI parachute assembly into a shipping container, which of the following procedures should you perform?

1. Remove cartridges from all cartridge-actuated devices
2. Chain the parachute suspension lines
3. Release all snap fasteners
4. All of the above

1-26. What is the total amount of naphthalene flakes that should be sprinkled throughout the parachute assembly prior to sealing it into a shipping container?

1. 1/4 pound
2. 3/8 pound
3. 1/2 pound
4. 5/8 pound

Learning Objective; Recognize types of and criteria for parachute inspections; identify parachute assemblies to be inspected who inspects them, and how inspections are performed. Identify forms, symbols, and procedures used in inspecting parachute assemblies.

1-27. Changes and modifications to a parachute assembly can be issued by Aircrew Systems Bulletins, Aircrew Systems Changes, or updated material entered in which of the following manuals?

1. NAVAIR 13-1-6.1
2. NAVAIR 13-1-6.2
3. NAVAIR 13-1-6.3
4. NAVAIR 11-100-1

1-28. After a parachute assembly is used in an emergency situation, what action is taken?

1. It is shipped to the Naval Weapons Center, China Lake, CA
2. It is shipped to the Naval Air Development Center, Warminster, PA
3. It is shipped to the Naval Safety Center, Norfolk, VA
4. It is disposed of locally

1-29. Periodic maintenance for parachutes fall under the direction and control of the

1. shop supervisor
2. quality assurance officer
3. maintenance control officer
4. maintenance officer

1-30. All parachute maintenance is done by the lowest level activity equipped to satisfactorily perform the work.

1. True
2. False

1-31. Mission, time, equipment, trained personnel, and operational needs are not the basic considerations in determining which level performs maintenance on a parachute.

1. True
2. False

1-32. Where do you record a 7-day or 14-day inspection performed on a parachute?

1. OPNAV Form 4790/38
2. OPNAV 4790/101
3. OPNAV 1348
4. OPNAV 1030/8

1-33. How many pages make up a Parachute Configuration Inspection and History Record?

1. One
2. Two
3. Three
4. Four

- 1-34. Who is responsible for initiating the Parachute Configuration Inspection and History Record?
1. The manufacturer
 2. The controlling custodians
 3. The IMA placing the parachute into service
 4. The squadron PR
- 1-35. All required entries on a Parachute Configuration Inspection and History Record must be legibly recorded using
1. a ball-point pen
 2. a typewriter
 3. either 1 or 2 above
 4. a felt-tip pen
- 1-36. Which copy of the parachute Configuration Inspection and History Record is filed with the aircraft logbook?
1. Hardback copy
 2. Pink copy
 3. Flimsy copy
 4. Yellow copy
- 1-37. Whenever a canopy is inspected and found to need repairs, what form is initiated?
1. A new Parachute Configuration Inspection and History Record
 2. A canopy Damage Chart
 3. A multlcopy MAF
 4. A NAVAIR-2650
- 1-38. The daily Inspection of a parachute installed in an aircraft can be performed by which of the following persons?
1. A pilot
 2. A plane captain
 3. A line troubleshooter
 4. Line personnel or issue room custodians found qualified by the PR and AME shops
- 1-39. Only parachutes installed in air-craft are Subject to a special (7-day or 14-day) inspection.
1. True
 2. False
- 1-40. a special inspection must include the harness used for that specific parachute inspected.
1. True
 2. False
- 1-41. If any damage or contamination is found or suspected while an inspection is being performed, who must the Inspector notify?
1. Line chief
 2. Duality assurance
 3. Work center supervisor
 4. Maintenance control
- 1-42. The original issue inspection on a parachute assembly is performed
1. every 14 days
 2. at each postcombat inspection
 3. at the time the assembly is placed into service
 4. at each calendar/phased inspection
- 1-43. A parachute has been used in an emergency situation. Which instruction gives you the procedures to follow to provide the Naval Weapons Center with sufficient information to properly evaluate the parachute?
1. NAVAIR 4790.2
 2. OPNAV 3750.6
 3. OPNAV 3710.7
 4. NAVAIR 1348
- 1-44. To meet unusual situations or facilitate workload schedulings how long can a parachute repack be delayed?
1. 7 days
 2. 10 days
 3. 14 days
- 1-45. Which of the following parts of a parachute assembly are required to be sent to the Naval Weapons Center (NWC) after use in an emergency?
1. Containers
 2. Harnesses
 3. Automatic parachute ripcord release assemblies
 4. All of the above

- 1-46. What is the maximum pull force on a ripcord pull test?
1. 22 pounds
 3. 25 pounds
 2. 27 pounds
 4. 36 pounds
- 1-47. What tool do you use to adjust the clip to meet the pull test requirements?
1. A screwdriver
 2. Pliers
 3. A ball peen hammer
 4. A setting maul
- 1-48. A pilot parachute in a parachute assembly will become averaged 1 month prior to the next inspection cycle. What action should be taken?
1. The parachute must be repacked 1 month early
 2. The parachute is taken out of service
 3. The parachute remains in service until the next repack cycle
 4. The pilot parachute must be replaced at the repack cycle prior to the expiration date
- 1-49. What action do you take if a cartridge becomes overaged prior to the next scheduled repack inspection?
1. The cartridge is replaced prior to repack
 2. The cartridge life may be extended to govern the inspection cycle
 3. The parachute must be repacked on the date the cartridge expires
- 1-50. If an emergency use canopy fails to show a start of service date, what will be the service life of the canopy from the date of manufacture?
1. 15 years
 2. 12 years
 3. 10 years
 4. 7 years
- 1-51. When you test for acid and/or alkaline contamination, what is the safe zone on pH test paper?
1. 0 to 5.0
 2. 5.0 to 9.0
 3. 9.0 to 14.0
 4. 14.0 to 20.0
- 1-52. What is the full range of pH test paper?
1. 0.0 to 8.5
 2. 0.0 to 9.0
 3. 0.0 to 10.0
 4. 0.0 to 14.0
- 1-53. What reading would indicate excess alkalinity?
1. 9.0 to 11.0
 2. 7.0 to 8.5
 3. 4.0 to 5.0
 4. 0.0 to 3.0
- 1-54. When inspecting suspension lines during an original issue inspection, how much tension is applied to the lines?
1. 5 pounds
 2. 10 pounds
 3. 15 pounds
 4. 20 pounds
- 1-55. When inspecting a parachute harness, you see a stencil on the horizontal backstrap that reads R-2-89. What does this information indicate?
1. The harness is to be removed from service in February 1989
 2. The harness was reworked February 1989
 3. The harness is a replacement harness, replaced in February 1989
 4. The harness is a regular size manufactured in February 1989
- 1-56. If fewer than three stitches are broken or loose on a harness assembly, what action, if any, should be taken?
1. Repair it using 6 cord
 2. Repair it using 3 cord
 3. Repair it using FF
 4. None

1-57. How many stitches per inch are used to sew a parachute harness?

1. 12 to 14
2. 10 to 12
3. 6 to 8
4. 4 to 6

1-58. What method is used to remove sand or dirt from canopy quick-release fittings?

1. High-pressure air (1500-1800 psi)
2. Low-pressure air (50 psi)
3. Toluene
4. Dry cleaning solvent

1-59. On most parachute containers that use rubber retaining bands to hold the suspension lines, the rubber bands must be replaced every

1. repack
2. other repack
3. third repack
4. fourth repack

1-60. When are local modifications permitted on a parachute assembly?

1. When directed by maintenance control
2. When directed by the maintenance officer
3. When directed by the squadron CO
4. When approved by proper authority